

them in the neighbourhood of the Sierra Nevada of Santa Marta in Colombia. Amongst the other species in the same collection I find *Basileuterus conspicillatus* and *Buarremon melanocephalus*, both discovered by Mr. Simons in this district, and as yet only known to be found there.

That a peculiar species of *Setophaga* should inhabit the Sierra Nevada of Santa Marta was to be expected, and also that its nearest ally should be found in the uplands of Venezuela, the two districts having many zoological affinities, *S. flavivertex*, however, is obviously distinct from *S. albifrons*, its yellow occiput being a peculiar feature, no other species of the genus *Setophaga* having this character.

This is the most important addition to our knowledge of *Setophaga* made since I wrote my synopsis in 1878 ('Ibis,' 1878, p. 302 *et seq.*), though the acquisition of additional specimens of *S. castaneocapilla* from British Guiana has established the differences of that bird from the Bolivian *S. brunneiceps*. A good deal, however, has been written on *Setophaga*. The Central-American species were treated of in the 'Biologia Centrali-Americana,' and Mr. Sharpe has reviewed the whole genus in the tenth volume of the 'Catalogue of Birds.' In his Key to the species, Mr. Sharpe adopts a somewhat different arrangement from mine; but I think the result does not bring out the natural affinities of the species so clearly. The division of all the species, except *S. ruticilla*, into those with crimson and those with yellow breasts, associates *S. miniata* with *S. picta*, and not with *S. verticalis*, to which it is certainly most closely allied; *S. picta* standing apart from the rest.

XIII.—*Notes on some Swiss Birds.*

By SCOTT B. WILSON.

As a short introduction to these notes, I may briefly mention the chief places in Switzerland at which they were taken. My observations extend over the springs of 1885 and 1886, with a few taken in the winter of 1885, when living at Geneva, where I had the advantage of having access to the

Museum of Natural History under the able direction of my friend M. Lunel, who was always willing to give me information. To Dr. Victor Fatio's kindness in advising me as to the best localities in the Alps for observations on birds I am much indebted for what success I have had, and, lastly, to my old guide Johann Anderegg, whose field-knowledge of birds is excellent and was of great assistance.

I arrived in Geneva in March, and on the 28th went to St. Maurice, a small village in the Rhone valley, some fifteen miles from the east end of the Lake of Geneva, to search for Nutcrackers' nests; but from want of knowing the chasseurs and their language, I was not successful, though one old chasseur told me that he knew that the "Nussheher" nested in the fir-woods near Evionnaz, two miles from St. Maurice. My next excursion was made in the end of May from Chaux-de-Fonds, in the Canton of Neuchâtel, near the French frontier—a very good place at which to observe birds, the town being situated on the slopes of the Jura, and within ten minutes' walk of its pine-forests. There I found the Citril Finch, Ring Ouzel, Firecrest, and Black Woodpecker breeding, and saw a fir-tree whence the year before a nest of the Nutcracker was taken. The latter was in the thick of the great pine-forests, at a lower altitude than Chaux-de-Fonds, and in those forests I hope some day to take the nest myself.

Thus it was not until June 10th that I started for the Alps, fortified with a "permis spécial" from the Government to collect birds, without which one can do nothing in Switzerland. From Geneva I went up the Rhone valley to Simplon and Leukerbad—the latter one of the best-known bathing establishments in Switzerland, almost at the foot of the Gemmi Pass, well known as connecting the Rhone valley with the Bernese Oberland. In the fir-woods about the village of Leukerbad, Crested Tits, Black Woodpeckers, Crossbills, and Ring Ouzels are to be found in fair quantity, and in the lower meadow-land Meadow Buntings, White Wagtails, and many Warblers; Black Redstarts are also very plentiful about Leukerbad. Thence I ascended the

Gemmi (7540 feet) and spent a week in the little hotel of Schwarenbach, making observations on the Snow Finch, Alpine Aceentor, &c. From Schwarenbach and the Gemmi I went to Kandersteg, where I observed the Wall Creeper on the very same crags whence my friend Mr. John Hancock obtained specimens in 1845. From Kandersteg I went to Interlaken, Brienz, and up the Haslithal to Meiringen, in the vicinity of which village the Crag Swallow and the Alpine Swift breed. From Meiringen, on June 23rd, I started with Anderegg for the Engstlen Alp (6100 feet), where we stayed till the 28th, finding the Water Pipit (*Anthus spipoletta*) very abundant. On July 2nd I returned to Interlaken, and thence to Berne, where I wished to see the Alpine Swift which breeds regularly in the cathedral; and thence to Geneva: my trip in 1885 extending from June 10th till July 4th.

In the spring of 1886 I made another tour, on which I was more successful, as must generally be the case when collecting in a new country. Arriving at Lucerne on May 26th, some three weeks earlier than the previous year, I went by rail to Göschenen, intending to go up to the St. Gothard Hospice; but on account of the quantity and bad state of the snow I was unable to do this, and was obliged to cross by the Furka and the Grimsel to Meiringen—no easy matter, owing to the snow. From Meiringen I again went to the Engstlen Alp, where I arrived on June 3rd, and stayed till the 11th, the rain pouring in torrents every day, which greatly hindered us in collecting and observing. From Meiringen, on the 15th, I returned to Lucerne over the Brünig Pass, and from Lucerne to Göschenen, as I wished to take the eggs of the Snow Finch myself, having been too early when I first crossed the Furka; from the Furka down to Brieg, and after a visit to the Simplon Hospice, I went, on June 19th, to Leukerbad, to spend a few days there in my old quarters before returning to England. Thus the two places at which I was most successful, and at which I made the longest stay, were the Engstlen Alp in the Canton of Berne and the Gemmi in the Valais.

The following are my observations, more especially on the Alpine species :—

Turdus torquatus. “Merle à plastron,” “Ringamsel.”

We found several nests of this bird in the Jura (3070 feet) in May, some with eggs, and several with young killed by the snow. On the Engstlen Alp, up to the limit of tree-growth (6100 feet) we obtained some fine specimens in June, and we subsequently shot a young bird on the Gemmi on July 5th. The Ring Onzel passes the summer in the high forests, and comes out towards evening from the forests to search for worms among the alpine pastures. It arrives at the end of March and departs late in September.

Saxicola cinanthe. “Traquet motteux,” “Grauer Steinschmätzer.”

We took the nest and saw the young of the Wheatear on the Gemmi (7540 feet), and also obtained its nest on the Furka, at a height of 8150 feet. Although a common bird in the plains, it deserves mention as it breeds at an altitude as high as the Snow Finch, and is one of the few birds which enliven the solitude of the glacier.

Ruticilla tithys. “Rouge-queue,” “Haus Rothschwanz.”

The first nest we took of the Black Redstart was on June 13th, 1885, during an excursion to the Torrenthorn Alp; it was placed on the cross-beam of a tumble-down old chalet, one of about twenty which are only inhabited in the summer, when the cows and goats are on the Alps. The birds were flying in and out; but we had quite an hour's search before finding a nest, which was composed chiefly of dry grass-stems woven together with hair and lined with Ptarmigan's feathers, and contained two eggs, of a beautiful pale rose-colour before blowing, and afterwards of an extremely pure white. The next spring I obtained a fine series of nests and eggs, mostly from chalets in the environs of Lenkerbad; the nests being invariably placed on the long beam which runs from one end of the building to the other, and I remember seeing seven nests (three of which, however, were

old) placed on the same beam. This bird generally prefers newish châlets to old ones. At first we used to search all the châlets alike, but soon found that searching old ones was mostly time thrown away. The only nest we found that was not in a châlet was in a hole in a large boulder of rock, close to the little inn on the Engstlen Alp. The Black Redstart certainly breeds twice a year, as we took eggs between the dates of June 2nd and July 7th; and on June 9th in the spring of last year I observed eggs freshly laid, eggs hard set, young just hatched, and young fully fledged and ready to leave the nest, all on the same day.

With regard to there being two distinct species, *R. tithys* and *R. cairii*, Degland and Gerbe say that "the second nesting of *R. cairii* takes place close to the eternal snow, where the Alpine Accentor and the Snow Finch breed, and where *R. tithys* is never seen," thus implying that *R. cairii* and *R. tithys* breed in different regions. Now I observed a male *R. tithys*, with conspicuously black breast, in the breeding-season on the Gemmi, which does away with *one* supposed distinction in the habits of the two species!

REGULUS IGNICAPILLUS. "Roitelet à triple bandeau."

I found this bird breeding in the Jura pine-forests, when searching for the nest of *Chrysomitris citrinella*. The nest which I took is constructed almost entirely of green moss, woven very closely together with hair, and bunches of feathers, among them those of the Nutcracker: it contained eight eggs, the pinkish colour of which renders them very easily distinguishable from those of the Golderest. The note of the Firecrest is very like that of the Golderest, but still it is distinguishable. We had the pleasure of watching a pair of Firecrests flitting about in a fir within a few feet of us; their motions were just the same as those of their congener, but perhaps they are rather more shy. The Firecrest appears to be not at all uncommon in the Jura; I also met with it in the Jura Vaudois, near Divonne. It breeds in the neighbourhood of Geneva, and I saw its eggs in the collection of my friend M. Demole, taken the year before in a fir-tree in his garden in the environs of that town.

ACCENTOR COLLARIS. "Accenteur des Alpes," "Alpenlerch."

It was in the Gemmi, on the 17th June, 1885, that I first heard the sweet song of the "Alpenlerch," as it is called in Switzerland. A slight noise on my left made me look round, and I saw one of these birds within four yards of me, perched on a flat stone. After looking well at me for several minutes, he began to sing—such a sweet joyous song, reminding me much of a Pipit, but with something very plaintive in it. He sang on for quite five minutes without moving from the stone, so I had good time to observe him: the eye has just the same quiet expression so characteristic of our Hedge Accentor; but the "Alpenlerch" is much robuster in form, and the legs are a lovely and conspicuous yellow-pink. I may here observe that this bird may be kept in a cage by feeding it on the same food as the Warblers, my friend M. Coleman, of Chaux-de-Fonds, having often kept them without difficulty. From the Gemmi we went to the Engstlen Alp, and on excursions to and about the Joch Pass (7200 feet) we again met with this bird. On the 27th June we found a pair which evidently had a nest, though we were not fortunate enough to find it; nevertheless I will shortly describe our search, as it will give an idea of the sort of ground on which they breed—moreover, too, as the nest we subsequently obtained was from the neighbouring Hasliberg, where the country has just the same character as the Engstlen Alp. We went some way without seeing Alpine Accentors, though the place looked just suitable for them, rough broken ground, covered with a thick scrub of the alpine rose and other dwarf shrubs; at last, however, we came upon several pairs hopping about a sort of wall of rock, to which they would persist in returning as soon as we had gone to some little distance off; we then sat down to watch, but though we saw them enter several times into likely-looking places, holes and crevices, we searched every one, as we thought, without success. That at least one pair had a nest here is, I think, most probable, from their so constantly returning to the same place; that they had eggs is also probable, as I

never observed a bird with any material for a nest in its bill. My guide ultimately shot one, which proved, on dissection, to be a male. The following June, on the Furka Pass, we observed an Alpine Accentor collecting materials for its nest; it was a very misty day, with occasional storms of sleet. We never saw Alpine birds so close to us; Water Pipits, Alpine Accentors, Wheatears, Black Redstarts, often came within a few yards of us when the mist was very thick, and a Kestrel hovered for some minutes not more than ten yards straight above our heads. The "Alpenlerch" would come to a large rock, the top of which was covered with moss, close to the roadside and to where we were sitting, and creep about in just the same sly way that our Hedge Accentor does, collecting bits of moss, and would then fly off, soon returning for more; we did not search for the nest, as we did not wish to disturb the bird whilst building.

On the 1st June, 1886, we had a nest with four eggs of the Alpine Accentor brought to us at Meiringen by a botanical collector, whom we questioned about it, and he described the species to us, having seen one of the birds quite close. The nest, which he found on the Hasliberg whilst searching for plants, was placed in a crevice, which was a very difficult place to get at. It is round, somewhat shallow, and fairly compact; composed mainly of dry grass-stems and very small pieces of moss, the inside being lined entirely with the same species of moss, still wonderfully green, and five small white feathers of the Ptarmigan. On the 8th July I obtained a young bird of the year on the Gemmi, which agrees with the description of one given by Mr. Dresser in his 'Birds of Europe' from the collection of Mr. Howard Saunders, obtained on the Sierra Nevada, Spain, in August. The white patch on the throat is entirely absent, and the underparts are of a very dusky yellow-brown, and much spotted, as in the young Hedge Accentor.

Of the eight adult specimens obtained, only one was a female, which differed in no way in plumage from the male. In autumn we saw several Alpine Accentors during a botanical excursion to the Dent de Morcles, where, according

to Tschudi, they may be seen in small flocks. In winter they descend to the valleys and, according to our old guide, who knows the bird well, they may be seen about the village of Meiringen. The food of this species consists, in summer, of insects and larvæ: in winter of anything it can get. We never observed the "Alpenlerch" shake its wings in the way our own Hedge Accentor so often does, and as we watched it often for a long time together, we doubt if it has that habit. Professor Newton asked me if I had noticed whether the Alpine Accentor had this habit or not.

MOTACILLA ALBA. "Bergeronette grise," "Weisse Bachstelz."

I found this bird nesting near Leukerbad, and obtained two nests with five eggs in each, one of them being placed on the roof of a chalet, the other on the ground; this was at an altitude of 4500 feet. Personally, I never observed it in the alpine region; but according to M. Saratz of the Upper Engadine, "it arrives in March (at first isolated individuals, then in large flocks), keeping in the valleys as long as the snow is not melted on the mountains, and ascends to the heights as soon as the snow has disappeared, after which it is to be found along the edges of any small stream."

ANTHUS SPIPOLETTA, L. "Wasserpieper."

The Water Pipit arrives in April, searches for places free from snow in the Alps, establishes itself there for the whole summer, and in autumn seeks the rivers and lakes of the plains, where some pass the winter; but the greater part migrate by small flocks into Italy. On the Engstlen Alp, on the 25th of June, it was very common, mounting into the air singing, and continuing its song till alighting, invariably on the extreme top of any tree near, generally either a spruce or *Pinus cembra*; it would then rest a few minutes, and begin its song again while still perched on the tree. The song is very simple, the same note being repeated over and over again—*tit, tit, tit*. We must have seen at least fifty in the course of the day, but though we searched most carefully, did not then find a nest. As we were coming back

from the Joch Pass we observed a pair of Pipits hopping about a rough stony piece of ground, clearly most anxious about nest or young; but although we searched long, we could find neither. The next day, on returning to the same place, we only saw one bird, which I shot, despairing of finding the nest; it was very much spotted and greatly resembled the Tree Pipit, but I have since made it out to be a bird of the year of *A. sipioletta*. The same day we shot an adult male, with its plumage a good deal worn; however, the reddish colour of the breast and neck and the whitish of the belly, together with the prevailing grey-brown of the upper plumage, make it not at all an ugly little bird. My friend Mr. John Hancock, to whom I gave the specimen, has stuffed it most beautifully, and it is now in the Newcastle Museum. In winter the breast is white, with greyish-brown spots.

On the 10th June, 1886, Anderegg found, on the Engstlen Alp, a nest placed on the ground under the shelter of a large stone, with five eggs. He saw the old birds near the nest, but did not shoot them. I subsequently found a nest myself when walking over the Furka Pass alone, in a snowstorm, on July 17th. The bird flew off this nest, which was placed only two or three yards from the main road, in a depression in the ground overhung by a large rock, and contained five young, just hatched; I took one of them in my hand, the old bird perching on a stone near all the time. The nest is loosely composed of dry grass-bents and stems, resembling very much a nest of the Common Whitethroat, lined inside with a few hairs and feathers.

COTILE RUPESTRIS. "Hirondelle des rochers," "Felsen-schwalbe."

I saw the Crag Swallow flying about the perpendicular crags of the Gemmi in June 1885, but observed it more particularly and found it breeding on the 1st of June, 1886, near Meiringen. The two nests I saw were placed against the face of an almost perpendicular crag, about thirty yards from the ground, and I could see the head of the old bird projecting, as it sat on the nest; but, alas! both nests were quite inac-

cessible from below or from above, as they were placed immediately beneath an overhanging projection of rock. We watched the birds nearly all day—both when high above with slow undulatory flight, and when dashing past, catching insects. They are conspicuous on the wing by the large oval white spots on the inner web of the tail-feathers. We shot two, a male and female. The sexes do not differ in plumage.

According to our guide, Anderegg, the Crag Swallows pass the winter here in the Haslithal, hiding in caves and crevices in the rocks; and he says he has seen them in winter flying about the village of Meiringen. We also saw this bird about the rocks of the Brünig Pass.

TICHODROMA MURARIA. “Tichodrome échellete,” “Mauerläufer.”

Of the Wall Creeper I was not successful in obtaining the nest; indeed, in the two springs that I passed in Switzerland I only saw six specimens, and obtained one—a male in summer plumage—on the Gemmi in June. I saw four on the great crags near Kandersteg, and one on the 10th November creeping up the wall of the Académie at Lausanne. Anderegg says that they are very common at the Teufelsbrücke, near Göschenen; but unfortunately the day we were there was very wet, which no doubt accounted for our not seeing them. Anderegg, who has accompanied Dr. Victor Fatio and other naturalists, and whose observations on birds are generally to be trusted, told me that “at the time of the moult from the breeding-plumage in July and August, the bird loses half of its long bill, which, however, soon grows again;” and he has sent Dr. Fatio specimens to prove it. I have not seen Dr. Fatio since, to ask him. In the collection of Herr Stauffer of Lucerne, I saw a pair of old birds with three young stuffed, all of which he obtained himself in the Grisons.

The note of the Wall Creeper, according to my own observation, resembles that of the Tree Creeper, but is clearer.

M. Lecthaler-Dimier, of the Museum of Natural History at Geneva, told us that in winter he had often shot the Wall

Creeper on Salève, a mountain close to Geneva, celebrated as a breeding-place for *Neophron percnopterus*, and on which, in winter, the Snow Finch and Alpine Accentor are also to be found. Some interesting observations by Dr. Girtanner, on the bringing-up of a family of this bird, are to be found in the Proc. Nat. Hist. Society of St. Gall for 1867-68.

CHRYSOMITRIS CITRINELLA. "Venturon," "Citronen-zeitig."

Leaving Chaux-de-Fonds early on the 28th May, we arrived at the small village of Gennevys-sur-Coffrane about 6 A.M., and began to ascend through the glades of pine-forests. Our first find was a nest of *Parus ater*, with five eggs; and, perched on a bush close by, we observed a fine male of *Lanius collurio*, in whose song we recognized imitations of the Lark and Linnet. These woods are a great place for Woodcocks, and on the way my friend, a sportsman as well as naturalist, showed me the place where many a "bécasse" had met its death. Our chasseur brought us a Sparrowhawk's nest with five eggs, two Ring Ouzel's with five eggs in each, and a Linnet's nest.

After breakfast, at an altitude of 3000 feet, we began our search in earnest for the Citril Finch, of which we soon observed a pair, pecking about on the ground, collecting materials for a nest. A few minutes afterwards we saw a nest placed high up in a spruce-fir, at the extreme end of a branch; the chasseur climbed up and brought down the nest, with three eggs. This nest, which contained several feathers of the Nutcracker, was cup-shaped, and constructed chiefly of dry grass-stems, moss, and thistledown, woven together with fine roots and hair, lined with thistledown and feathers. Another nest contained no feathers, being lined entirely with thistle-down. A third was lined entirely with hair, and very little thistledown had been used in its construction.

After lunch we found two more nests, with three and five eggs respectively, both placed at the extreme end of a bough. Then we came upon a Ring Ouzel with five young, killed by the snow; soon after, a Buzzard passed quite close to us;

then we saw a pair of Kestrels, and then a pair of Buzzards, one of which kept mounting the air in circles till almost lost to sight. It suddenly (as I saw clearly through my glass) began to hover, in the same way as a Kestrel, then, partially shutting its wings, came down at a great rate, just as a Lark does, after soaring, the last few yards before reaching the ground—an action I never observed in a Buzzard before.

We now began to descend, and our next find was a nest of *Parus borealis* in an old tree-stump, quite finished, but with no eggs; according to my friend, this species always breeds in old stumps. Not far from here he showed me a fir tree in which he and the chasseur who was with us had taken a Nutcracker's nest three years ago, early in March, the snow being then some two feet deep in the forests. I took a large piece of lichen from the tree as a souvenir. We only heard the Nutcracker once that day, although keeping a good look-out. We next found a nest of the Firecrest; the old birds were very tame, hopping about within a few feet of us. At 5 o'clock we had our tea on a small plateau, with a magnificent view of the distant Alps, now tinged a lovely rose-colour by the setting sun; the sky, too, was a rich pinkish yellow, and the Lake of Neuchâtel below us as smooth as glass and reflecting even the smoke of the steam-boat. While sitting here, a Black Woodpecker flew across, uttering its shrill note; and our chasseur said he knew of a nest with young, but that it is by no means common in these forests. He also told us that he had seen the first Quail that morning, and also a Blackcock and two Greyhens. We got back to Chaux-de-Fonds about 9 o'clock, after a most enjoyable ramble after birds in the Jura.

LINOTA RUFESCENS, Vieillot.

Of six specimens, all shot on the Engstlen Alp, one only had the breast red. I also observed this bird on the Gemmi, where it was very plentiful, frequenting the rising ground just behind the inn of Schwärenbach. While staying on the Engstlen Alp, on June 8th, 1886, Anderegg, found a nest containing four eggs, placed in a very thick dwarfed

fir. He was much delighted, and said that it was "nie in der Schweiz gefunden;" but a note of Dr. Victor Fatio on this species, under the name of *Fringilla borealis*, in M. Saratz's "Catalogue of the Birds of the Upper Engadine" (Bull. Soc. orn. Suisse), says:—"It is always the *F. borealis* which I have met with in other parts of the Alps, nesting up to the edge of the glaciers."

MONTIFRINGILLA NIVALIS. "Niverolle," "Schneefink."

This bird we observed at a greater height than any other Alpine bird, at the foot of the Lammern glacier (7600 feet), and we found it breeding at the summit of the Furka Pass, as well as at the Gemmi, to which places these notes principally refer.

The first Snow Finches we saw were a pair on June 12th, 1885, on the Gemmi Pass; and on the following day, during an ascent of the Torrenthorn, we saw on one of its lower slopes a Snow Finch running about on the snow in company with a pair of Alpine Accentors. Higher still (about 9000 feet) we saw this species in small flocks. On the 17th June we ascended the Gemmi, and took up our quarters at a small inn at the very summit of the Pass, intending to do our best to find a nest of the Snow Finch and to observe other Alpine birds. On the 18th we got up at 3.30 A.M., and saw several pairs about the house, one pair being so tame that they took bread thrown to them, just as Sparrows do. We sat down to watch, hoping to track them to their nest; but they flew over the edge of the Pass and were soon lost sight of. All the ground was covered with snow, and we could not see where it was possible for the birds to have their nest except among the perpendicular crags of the Gemmi which do not hold the snow; and there it turned out to be. On the 19th June we had gone on overnight to the little town of Schwarenbach; but we thought we would give the Gemmi another trial: so we started from Schwarenbach at 2.30 A.M. We got back to the Gemmi about 3, the path not being easy to find, as there were only a few stakes here and there to show it, and we often sank into the snow above

our knees. Arrived at the Pass, we sat down to watch for birds, while our chasseur went off with the gun. We had not waited long before we saw a pair of Snow Finches flying backwards and forwards, always to the same place—a great isolated mass of rock high above the right-hand side of the path, and quite inaccessible, at least from below. The parent birds were, we should say, judging from the date (27th May) on which we subsequently found a nest with young, bringing food to their young. All the time they were flying backwards and forwards they kept uttering their rather peculiar note, which greatly resembles that of the Brambling. When the chasseur came back, we attempted to get at the place to which we had seen the birds flying, and where the nest evidently was, from above; but this, though the chasseur was a well-known chamois-hunter, we found to be impossible. Thus, though not successful in getting a nest, we saw at least in what sort of a place, for want of a better, the Snow Finch breeds.

We recrossed the Gemmi on July 15th, and on the wild desolate country round the Daubensee, which was now almost free from snow, we met with a family of Snow Finches—two old birds and three young ones of the year,—and were successful in obtaining the three young and the male. The pure white of the breast and underparts of the young birds, together with the clear bright yellow of their bills, was very distinctive, as compared to the worn dirty-white underparts and pale bluish-yellow bill of the old bird. These young were most probably bred among the crags of the Gemmi, and, as soon as they were able to fly, were brought by the parents to search for their food (small seeds, of which their crops were full) among this rocky and desolate-looking waste. There is scarcely any vegetation here except dwarfed grass; the rocks themselves are, however, mostly covered with the pretty little *Azalea procumbens*, with here and there patches of gentians (*G. acaulis* and *G. verna*), *Ranunculus alpestris*, and other Alpine plants, with their lovely bright colours.

In the spring of 1886 we were successful in finding the Snow Finch's nest, but in a very different place. Remembering

that our friend Dr. Fatio had advised us to look about under the eaves of any small buildings near which we saw any Snow Finches, we went straight to Lucerne (where, we may remark, *en passant*, that Herr Stauffer has a fine collection of Alpine mammals and birds), and thence to Göschenen, intending to search the St. Gothard. On the 27th May, with Anderegg, who had accompanied me the previous spring, I left Göschenen at 11 A.M., intending to push on to Meiringen over the Furka, as we heard from the innkeeper at Göschenen that the Saint Gothard was impassable, owing to the soft state of the snow—the road over this Pass not having been cleared of snow since the opening of the St. Gothard Railway. We slept at Realp, the highest village in Switzerland except Mürren. Next day we left Realp early, and found men hard at work clearing the Furka road of snow, which they had done to within twenty minutes' walk of the Hospice; but in places where it had been only partially cleared, we walked between walls of snow 10 feet high. When we got within fifty yards or so of the Hospice, we were delighted to see Snow Finches flying all about, and perched on the roofs of the buildings, singing gaily. Arrived at the Hospice, which was as yet only inhabited by two men and some St. Bernard dogs, we procured a rickety old ladder, which we put up against one of the outhouses under the roof of which we saw a Snow Finch fly in; and there I found the nest, placed on the top of the wall of the building, covered by the roof: it was finished, but contained no eggs. We tried four more nests, all placed under the slates, the old birds sometimes perching quite close to us, piping vigorously and much excited. Some of these nests were not yet finished, and none contained eggs. One nest, built in a hole in the tower of the Hospice itself, we were able to look right into from a window on the first floor; it was a very large nest, quite finished, and it was afterwards brought to me. Besides this nest, we only found one which was not under the eaves, and that was placed in a hole in a wall made of stones, the bird entering by a very small aperture, so that we had to remove several stones to get at

the nest, in which the birds had not yet laid. I have since received eggs and a nest from here, of which a short description is given below. On June 16th we recrossed the Furka, in the hope of taking the eggs ourselves; but now all the nests contained young just hatched, to which the old birds were bringing small larvæ and insects in their bills.

From these observations it appears that the Snow Finch breeds at an altitude of not less than 6500 feet, and lays about the end of May or the beginning of June, at a time when the ground in these Alpine regions is entirely covered with snow; from which cause, I suppose, it is obliged to place its nest under the roofs of buildings, or, where there are no buildings, in rocks which do not hold the snow—the former not only affording them a dry nesting-place, but one which also protects the nest from the storms of snow and sleet, which have by no means ceased to fall by the end of May.

A nest obtained on the Furka is made principally of dry grass-stalks, intermingled with which are tufts of hair, wool, leaves, shavings of wood, and a few feathers; the inside walls are lined with Ptarmigan's feathers, both white and brown, these being woven together very compactly with horsehair, and in the nest before me also with strands of green worsted. The bottom of the nest is not lined with feathers. The outside diameter, which is nearly round, is $8\frac{1}{4}$ inches; the inside diameter $3\frac{1}{2}$ inches; thus the inside cup is small in proportion. The eggs are pure white, and from three to five in number.

To these personal observations perhaps I may add some information we received from several people while in the Alps. The Snow Finches in winter descend from the Alpine region to the lower valleys; and a lady who spent a winter at Leukerbad told me that they used to sit on a tree in the courtyard of the hotel to the number of thirty or forty, and would fly down and pick up bread from the ground. At the Simplon Hospice, where we spent a night, one of the monks (who, by the way, had a fine collection of insects) told me that these birds come into the corridors and are very familiar. One spring he caught a "Niverolle," which he

shut up in a room, feeding it on grain and rice, and it became so tame that it would sit on the desk where he was writing; he kept it through the winter, and let it go the following spring. At the Furka the owner told me that several years ago he used to amuse himself with watching a pair of Snow Finches playing with a St. Bernard. They would never let the dog eat in peace, but would fly down, feigning to strike at him, until the dog got furious, and barked and snapped at the birds, which only seemed to enjoy the fun all the more.

I do not think there is a prettier sight than a flock of Snow Finches on the wing; with the sun shining on them, the black and white of their plumage shows so beautifully, and when they are flying up slowly against the wind they look just like great black-and-white butterflies.

PYRRHOCORAX ALPINUS. "Choquard," "Steinkrähe."

I obtained specimens on the Gemmi; but was not successful in finding the nest, although I saw a pair of these birds in the breeding-season repeatedly entering the same cleft in the rock, halfway up the Pass, where, no doubt they had their nest. Their flight is powerful, and as they rise high into the air in circles, it reminds one of that of a Falcon; their harsh cry is heard at a great distance, as we observed on the Gemmi, when, after firing a shot, any Choughs which happened to be concealed in clefts in the rock, would dash out, screaming loudly, and fly away far down beneath us. They appear to feed in flocks of not more than forty, at least we never saw more in a flock, and very often not more than twelve. In harvest time, according to my chasseur, they descend to the fields and feed on grasshoppers. They also nest in large colonies in several places in Switzerland, of one of which we were told the whereabouts, but unfortunately had not time to visit it.

CYPSELUS MELBA. "Martinet à ventre blanc," "Alpen-segler."

On July 3rd we paid a visit to the cathedral at Berne, where the Alpine Swift breeds regularly in large numbers. On approaching the building we saw great numbers of them

flying round the tower, uttering their harsh scream ; we then went up the tower and questioned the custodian, who told us that all the birds were now sitting, and that most probably the young were hatched, but that we could go and see for ourselves. We then went higher still to see the nests, the floor being very dirty, owing to the mutings of the birds, to say nothing of the dust ; it was also very dark, there being no light except from under the roof. The nests, of which we could see about twenty, were placed on the ledge which goes round the tower, and about 4 feet below the main floor, on which we were standing, so we were obliged to kneel down and look very quietly over the edge at the nests ; sometimes there were three or four in the space of 3 yards, all placed on the same beam, and on most of the nests which we could see there was an old bird sitting. On making the least noise, the sitting birds would immediately look up at us, and then roll themselves off the nests, disappearing with harsh screams into the air, but would soon come flying back again under the roof and crawl to their nests.

The male and the female appear to take turns in sitting on the eggs, for as we were watching a bird on its nest, another Swift suddenly dashed in under the roof and began to caress the bird on the nest ; they both kept twisting their heads about, rubbing against each other's cheeks with open bills ; then the sitting bird rolled itself off the nest and vanished into space, the other taking its place.

We were lucky in finding one nest which still contained two freshly laid eggs, which we took ; other nests contained eggs already much incubated, and one had young just hatched, with only a little black down on them. The nest is very shallow, constructed of dry leaves, bits of paper, a few dry grass-stems, bits of fir-bark, and a few feathers, the whole being made fairly solid by the mucous fluid which the bird emits. The nest was infested by a parasite. The eggs, generally four in number, are pure white, and out of 35 eggs we obtained no varieties in colour, but some are much larger than others.

The Alpine Swift nests in colonies in many of the cathedral

towers in Switzerland, and also among high crags in the Alps. I observed several pairs on the Gemmi, also at Meiringen, where I shot one on June 12th as it was flying about some crags, in company with Crag Swallows and Common Swifts.

The note is very powerful and different from that of the Common Swift, added to which the white underparts, brownish upper plumage, and the enormous length of wing render this species easily distinguishable. It arrives at the end of April or beginning of May, and leaves between the middle of September and the middle of October, according to the season. Sometimes they have already left the cathedral of Berne by the end of August.

GYPÆTUS BARBATUS. "Lämmergeyr."

This bird has now become very rare in Northern Switzerland, though several pairs still breed in the Grisons. The only specimen I saw recently killed was one which Herr Stauffer of Lucerne was stuffing; it had been lying for some days in the snow before he received it, and the difficulty in preserving it must have been great, as the feathers of the head and neck came out at the least touch. I observed fine specimens in all the museums, particularly in Herr Stauffer's collection; but owing to the high prices given by these establishments this species has become so rare that in a few years it will probably be no longer found in Switzerland.

AQUILA CHRYSÆTUS. "Aigle royal," "Steinadler."

I observed about a dozen specimens of this noble bird during the two springs I passed in Switzerland. On the Engstlen Alp, where marmots are very abundant, they form the Eagle's principal food, a fact which I do not remember to have seen mentioned by any author. On 26th June, 1886, we watched an interesting chase; the sharp whistle of a marmot was heard, and looking down we saw an Eagle in full pursuit, flying close to the ground, and the marmot running at full speed, screaming loudly: it just gained its hole in time.

The Golden Eagle cannot be common, at any rate in the Canton of Berne, as my old chasseur has only shot three in forty years ; he tells me that a dead marmot is the surest bait. All the museums have a number of specimens of this bird, and to this cause, as in the case of the Bearded Vulture, its rarity may be attributed.

MILVUS MIGRANS.

The Black Kite arrives towards the end of March or beginning of April, and departs in September. It is to be seen near Geneva, fishing in the Rhone, and also on the lake at Lausanne. When bathing, a Black Kite has often come within a few yards of me, every now and then carrying off one of the small fish which swim in shoals near the surface of the water, and which the natives call 'Sardines' (*Alburnus lucidus*). It breeds on Salève near Geneva, where I have seen several pairs in May ; also near Neuchâtel, and in the rocks near Villeneuve at the east end of the lake. In September 1885 I received a live specimen of this bird, taken from the nest on Salève, which had already been two years in captivity. My friend M. Hermann Goll kept it for me in his aviary at Lausanne, and when I left in January the bird had become very tame, knowing M. Goll and myself perfectly, and showing great delight when we came near the cage. It fed chiefly on raw meat varied with Sparrows, but what it liked most was the head of a duck, off which it would peck every morsel ; we gave it no fish at all, though in a wild state the Black Kite feeds principally on fish.

On May 3rd, 1885, from the promenade which runs along the edge of the lake of Neuchâtel, I watched a pair of Black Kites fishing ; they were wonderfully clever in eating while on the wing ; and I saw very clearly through my glasses how they managed this. The Kite would swoop down and carry off a fish in its claws from the surface of the water, and then mount from 20 to 40 yards above the surface of the lake, going straight up from where it had found the fish, and thus not losing any hunting-ground ; it then lowered

its expanded tail, and, at the same time grasping the fish in the claws of one foot only, bent its body downwards and forwards, until it was able to reach the fish with its bill, which it then attacked voraciously, tearing at it repeatedly, until the fish, which during the operation remained firmly grasped in its claws, was finished. During this meal the Kite remained quite stationary in the air, not descending in the least. A habit of the Black Kite I noticed was, that when one Kite was flying a few yards only above the surface of the lake, looking out for food, it was almost invariably accompanied by its mate, at an immense height, but almost straight above. In this way the two traversed at least two miles of the lake; then the one which was flying above would descend and join its mate, and they both flew away together to the further side of the lake, where they no doubt had a nest.

CACCABIS SAXATILIS.

I saw several pairs in the breeding-season in different parts of the Alps, but the species was nowhere abundant. I obtained a nest with twelve eggs from the Torrenthorn, near Leukerbad; and on the Engstlen Alp I shot a male on June 8th, 1886.

It is a truly Alpine bird, not being found at all in the Jura; in summer its food consists of the buds of the Alpine rose and of other plants, insects, &c. In winter, however, like other Alpine birds, it descends to the lower valleys and lives upon all kinds of seeds, berries of the juniper, and pine-needles.

I saw one alive in the possession of Herr Stauffer at Lucerne, which he had had for two months, and M. Goll, of Lausanne, kept one for some time in his aviary; he tells me it is not a difficult bird to keep in captivity.